

UNITED STATES PATENT AND TRADEMARK OFFICE

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| Applicant(s) | Charles R. Barker, Jr et al | Group Art Unit: | 2664 |
| Application No.: | 09/929,032 | Examiner: | Brenda H. Pham |
| Filed: | August 15, 2001 | Confirmation No. | 1879 |
| Title: | SYSTEM AND METHOD FOR PROVIDING AN ADDRESSING AND PROXY SCHEME FOR FACILITATING MOBILITY OF WIRELESS NODES BETWEEN WIRED ACCESS POINTS ON A CORE NETWORK OF A COMMUNICATIONS NETWORK | | |

AMENDMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-145

Sir:

This communication is responsive to the Office Action mailed March 13, 2006, concerning the above-identified application and is timely filed within the three month shortened statutory period for a response. Applicant submits the following Amendment and Remarks and respectfully requests the Examiner to reconsider the rejections made in the Action and to allow the claims to issue.

Please amend the application as follows:

Amendments to the Claims are reflected in the listing of claims, which begins on page 2 of this paper.

Remarks/Arguments begin on page 13 of this paper.

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

1. (previously presented) A communications network, adapted for use with mobile wireless user terminals, said network comprising:

a packet-switched core network; and

a plurality of access points coupled to said core network, each said access point being adapted to provide any said user terminal with communications access to said core network when said any user terminal becomes affiliated with said access point, and including an address resolution protocol cache which is adapted to store information representative of affiliation between said user terminals and said access points, and each said access point being adapted to update its address resolution protocol cache with an Internet protocol address of a said user terminal when that said user terminal becomes affiliated with said access point, and being further adapted to issue an address resolution protocol request which causes other said access points to update their respective address resolution protocol cache to indicate that a said user terminal has changed its affiliation to said access point.

2. (previously presented) A communications network as claimed in claim 1, wherein:

said each access point is adapted to issue said address resolution protocol request over said core network.

3. (Canceled)

4. (Canceled)

5. (Original) A communications network as claimed in claim 1, wherein:

said access point with which a said user terminal is affiliated is adapted to transmit a received data packet to said user terminal via a wireless communications link.

6. (Original) A communications network as claimed in claim 1, wherein:

each said access point includes a wireless transceiver, adapted to transmit and receive data packets to and from a said user terminal affiliated therewith via a wireless communications link.

7. (previously presented) A communications network as claimed in claim 1, wherein:

all of said access points are within the same broadcast network.

8. (previously presented) A communications network as claimed in claim 1, further comprising:

at least one of a media server, DNS server and an IP gateway router, each including a respective an address resolution protocol cache which is adapted to store information representative of affiliation between said user terminals and said access points and is updateable based on said address resolution protocol request.

9. (Canceled)

10. (Original) A communications network as claimed in claim 1, wherein:

each said access point is adapted to provide any said user terminal with communications access to said core network when said user terminal is participating in an ad-hoc network.

11. (previously presented) An access point, coupled to a communications network and being adapted to provide mobile wireless user terminals with communications access said network, said access point comprising:

a wireless transceiver, adapted to transmit and receive data packets to and from a said wireless user terminal affiliated with said access point;

an address resolution protocol cache, adapted to store information representative of affiliation between said user terminals and said access points; and

an affiliation indicator, adapted to update the address resolution protocol cache with an Internet protocol address of a said user terminal when that said user terminal becomes affiliated with said access point, and being further adapted to issue an address resolution protocol request which causes other access points coupled to said communications network to update their respective address resolution protocol cache to indicate that said user terminal has changed its affiliation from said another access point to said access point.

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (previously presented) An access point as claimed in claim 11, wherein:
all of said access points are within the same broadcast network.

16. (Original) An access point as claimed in claim 11, wherein:

said wireless transceiver is adapted to transmit and receive data packets to and from a said wireless user terminal affiliated with said access point when said user terminal is participating in an ad-hoc network.

17. (previously presented) A method of handling mobility of wireless user terminals adapted for use with a communications network including a packet-switched core network and a plurality of access points coupled to said core network, said method comprising:

provide a said user terminal with communications access to said core network via said access point when said user terminal becomes affiliated with said access point;

storing information representative of affiliation between said user terminals and said access points in a respective address resolution protocol cache of each said access point;

controlling said access point to update its address resolution protocol cache with an Internet protocol address of a said user terminal when that said user terminal becomes affiliated with said access point, and to issue an address resolution protocol request to indicate to the other said access points that said user terminal has changed its affiliation from said another said access point to said access point; and

updating respective said address resolution protocol caches of the other said access points based on said address resolution protocol request to indicate said change in affiliation of said user terminal.

18. (previously presented) A method as claimed in claim 17, wherein:

said controlling step controls said access point to issue said address resolution protocol request over said core network.

19. (Canceled)

20. (Canceled)

21. (Original) A method as claimed in claim 17, further comprising:

controlling said access point with which a said user terminal is affiliated to transmit a received data packet to said user terminal via a wireless communications link.

22. (previously presented) A method as claimed in claim 17, wherein:

all of said access points are within the same broadcast network.

23. (previously presented) A method as claimed in claim 17, further comprising:

updating respective address resolution protocol caches of at least one of a media server, DNS server and an IP gateway router of said network based on said address resolution protocol request.

24. (Canceled)

25. (Original) A method as claimed in claim 17, wherein:

said providing step includes providing said user terminal with communications access to said core network when said user terminal is participating in an ad-hoc network.

26. (previously presented) A method for providing mobile wireless user terminals with communications access to a packet-switched network, said method comprising:

controlling an access point on said packet-switched network to transmit and receive data packets to and from a said wireless user terminal affiliated with said access point;

controlling said access point to store information representative of affiliation between said user terminals and access points on said packet-switched network in an address resolution cache of said access point;

controlling said access point to update its address resolution protocol cache with an Internet protocol address of a said user terminal when that said user terminal becomes affiliated with said access point, and to issue an address resolution protocol request to indicate to other said access points coupled to said packet-switched network indicating that said user terminal has changed its affiliation from said another access point to said access point; and

controlling said other access points to update their respective address resolution protocol cache based on said address resolution protocol request.

27. (previously presented) A method as claimed in claim 26, wherein:

said third controlling step controls said access point to issue said address resolution protocol request over said packet-switched network.

28. (Canceled)

29. (Canceled)

30. (previously presented) A method as claimed in claim 26, wherein:

all of said access points are within the same broadcast network.

31. (Original) A method as claimed in claim 26, wherein:

said first controlling step controls said access point to transmit and receive data packets to and from a said wireless user terminal affiliated with said access point when said user terminal is participating in an ad-hoc network.

32. (previously presented) A computer-readable medium of instructions, adapted to control access points of a communications network including a packet-switched core network to handle mobility of wireless user terminals adapted for use with said communications network, said computer-readable medium of instructions comprising:

a first set of instructions, adapted to control a said access point to provide a said user terminal with communications access to said core network via said access point when said user terminal becomes affiliated with said access point;

a second set of instructions, adapted to control each of said access points to store information representative of affiliation between said user terminals and said access points in their respective address resolution cache;

a third set of instructions, adapted to control said access point to update its address resolution protocol cache with an Internet protocol address of a said user terminal when that said user terminal becomes affiliated with said access point, and to issue an address resolution protocol request to indicate to the other said access points that said user terminal has changed its affiliation from another said access point to said access point; and

a fourth set of instructions, adapted to update respective said address resolution protocol caches of the other said access points based on said address resolution protocol request to indicate said change in affiliation of said user terminal.

33. (previously presented) A computer-readable medium of instructions as claimed in claim 32, wherein:

said second set of instructions is adapted to control said access point to issue said address resolution protocol request over said core network.

34. (Canceled)

35. (Canceled)

36. (Original) A computer-readable medium of instructions as claimed in claim 32, further comprising:

a fifth set of instructions, adapted to control said access point with which a said user terminal is affiliated to transmit a received data packet to said user terminal via a wireless communications link.

37. (previously presented) A computer-readable medium of instructions as claimed in claim 32, wherein:

all of said access points are within the same broadcast network.

38. (previously presented) A computer-readable medium of instructions as claimed in claim 32, further comprising:

a sixth set of instructions, adapted to control at least one of a media server, DNS server and an IP gateway router of said network to update its respective address resolution protocol cache of based on said address resolution protocol request.

39. (Canceled)

40. (Original) A computer-readable medium of instructions as claimed in claim 32, wherein:

said first set of instructions is adapted to control said access point to provide said user terminal with communications access to said core network when said user terminal is participating in an ad-hoc network.

41. (previously presented) A computer-readable medium of instructions for controlling an access point of a packet-switched network to providing mobile wireless user terminals with communications access to said packet-switched network, said computer-readable medium of instructions comprising:

a first set of instructions, adapted to control a said access point on said packet-switched network to transmit and receive data packets to and from a said wireless user terminal affiliated with said access point;

a second set of instructions, adapted to control said access point to store information representative of affiliation between said user terminals and access points on said packet-switched network in an address resolution protocol cache of said access point;

a third set of instructions, adapted to control said access point to update its address resolution protocol cache with an Internet protocol address of a said user terminal when that said user terminal becomes affiliated with said access point, and to issue an address resolution protocol request to indicate to other said access points coupled to said packet-switched network that said user terminal has changed its affiliation from another access point to said access point; and

a fourth set of instructions, adapted to control said other access points to update their respective address resolution cache based on said address resolution protocol request.

42. (previously presented) A computer-readable medium of instructions as claimed in claim 41, wherein:

said third set of instructions is adapted to control said access point to issue said address resolution protocol request over said packet-switched network.

43. (Canceled)

44. (Canceled)

45. (previously presented) A computer-readable medium of instructions as claimed in claim 41, wherein:

all of said access points are within the same broadcast network.

46. (Original) A computer-readable medium of instructions as claimed in claim 41, wherein:

said first set of instructions is adapted to control said access point to provide said user terminal with communications access to said core network when said user terminal is participating in an ad-hoc network.

REMARKS/ARGUMENTS

Claims 1-2,5-8,10-11,15-18,21-23,25-27,30-33,36-38,40-42,and 45-46 remain pending in this application.

Rejection of Claims 1-2,5-8,10-11,15-18,21-23,25-27,30-33,36-38,40-42,and 45-46 under 35 U.S.C. §102(e) as anticipated by Lee et al (US 6,535,493)

The rejection of Claims 1-2,5-8,10-11,15-18,21-23,25-27,30-33,36-38,40-42,and 45-46 under 35 U.S.C. §102(e) as being anticipated by Lee et al (US 6,535,493) is respectfully traversed and reconsideration and withdrawal of the rejection is respectfully requested at this time.

The details of the claimed embodiments of the present invention and the cited art will now be discussed.

As discussed throughout the present application, the present invention provides a system, method and computer readable medium of instructions capable of reaffiliating a mobile wireless user terminal from one access point of a network to another. Specifically, an access point with which the user terminal is becoming affiliated is capable of issuing an address resolution protocol request to update the address resolution protocol cache of the access point with which the user terminal was previously affiliated and place the IP address of the user terminal in the address resolution protocol cache of the newly affiliated access point, to therefore inform the remaining access points of the network of this new affiliation. This feature is expressly recited in the independent claim as indicated above. As can be appreciated by one skilled in the art, the use of this address resolution protocol request enables standard Internet protocol request resolution mechanisms to manage routing to the access point, and thus supports all the needed routing uptake function for the access point to enable the user terminal to remain attached to the network.

Applicants respectfully submit that the Lee patent fails to teach or suggest the use of an address resolution protocol request to update the address resolution protocol cache of one access point with which the user terminal was previously affiliated and place the IP address of the user terminal in the address resolution protocol cache of the access point with which the user terminal

is becoming affiliated. Specifically, the Lee patent teaches a data communication system having a home network and a remote network, and allows mobile units, such as mobile units 100 and 130, to affiliate with access points 102 and 104 of a home network and access points 132 and 134 of a remote network.

Column 11, lines 1-40 of the Lee patent describe the use of an address resolution protocol request to enable an access point of the mobile unit's home network to act as a proxy when the mobile unit becomes registered on a foreign subnet. Applicants respectfully submit that this is completely unlike the embodiments of the present invention in which an address resolution protocol request is used to update the address resolution protocol cache of the access point with which the user terminal was previously affiliated and place the IP address of the user terminal in the address resolution protocol cache of the access point with which the user terminal is becoming affiliated. Applicants respectfully submit that in the Lee network, the access point of the home network maintains the address of the mobile unit so that access point can act as a proxy even when the mobile unit affiliates with a foreign access point.

Furthermore, as described, for example, in paragraph 0033 of the present application, the access points (e.g., access points 104, 106 and 108) are within an IP subnet in the same broadcast domain. This feature is now defined in amended dependent claims 7, 15, 22, 30, 37 and 45. This is unlike the network taught by the Lee patent, in which the address resolution protocol is used to allow an access point to operate as a proxy of a user terminal when that user terminal moves to another subnet or, in other words, a different broadcast domain.

Therefore, since Claims 1-2,5-8,10-11,15-18,21-23,25-27,30-33,36-38,40-42,and 45-46 recite patentable subject matter, Applicants respectfully submit that Claims 1-2,5-8,10-11,15-18,21-23,25-27,30-33,36-38,40-42,and 45-46 are in proper condition for allowance and request that Claims 1-2,5-8,10-11,15-18,21-23,25-27,30-33,36-38,40-42,and 45-46 may now be passed to allowance.

For the foregoing reasons, applicants respectfully request that the above rejections be withdrawn.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

The Applicants believe that the subject application, as amended, is in condition for allowance. Such action is earnestly solicited by the Applicants.

In the event that the Examiner deems the present application non-allowable, it is requested that the Examiner telephone the Applicant's attorney or agent at the number indicated below so that the prosecution of the present case may be advanced by the clarification of any continuing rejection.

The Commissioner is hereby authorized to charge Deposit Account 502117, Motorola, Inc, with any fees which may be required in the prosecution of this application.

Respectfully submitted,

May 31, 2006

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